

What is claimed is:

1           1. A III group nitride system compound semiconductor  
2 light emitting element, comprising:  
3           a quantum well structure that includes a well layer of  
4  $\text{Al}_{x_1}\text{Ga}_{y_1}\text{In}_{1-x_1-y_1}\text{N}$ , where  $0 < x_1$ ,  $0 \leq y_1$  and  $x_1 + y_1 < 1$  and a barrier  
5 layer of  $\text{Al}_{x_2}\text{Ga}_{y_2}\text{In}_{1-x_2-y_2}\text{N}$ , where  $0 < x_2$ ,  $0 \leq y_2$  and  $x_2 + y_2 \leq 1$ ,  
6           wherein the Al composition ( $x_2$ ) of said barrier layer is  
7 equal to or smaller than that ( $x_1$ ) of said well layer.

1           2. The III group nitride system compound semiconductor  
2 light emitting element according to claim 1, wherein:  
3           said barrier layer is of  $\text{Al}_{x_2}\text{Ga}_{y_2}\text{In}_{1-x_2-y_2}\text{N}$ , where  $0 < x_2$ ,  $0 < y_2$   
4 and  $x_2 + y_2 \leq 1$ .

1           3. The III group nitride system compound semiconductor  
2 light emitting element according to claim 1, wherein:  
3           the Al compositions ( $x_1$ ,  $x_2$ ) of said well layer and said  
4 barrier layer are set to satisfy the relationship of  $x_2 \leq x_1 \leq 1.5$   
5  $\times x_2$ .

1           4. The III group nitride system compound semiconductor  
2 light emitting element according to claim 2, wherein:  
3           the Al compositions ( $x_1$ ,  $x_2$ ) of said well layer and said  
4 barrier layer are set to satisfy the relationship of  $x_2 \leq x_1 \leq 1.5$   
5  $\times x_2$ .

1           5. The III group nitride system compound semiconductor  
2 light emitting element according to claim 1, wherein:  
3           said well layer has substantially the same lattice

4 constant as GaN layer that is a base layer of said quantum well  
5 structure.

1 6. The III group nitride system compound semiconductor  
2 light emitting element according to claim 2, wherein:

3 said well layer has substantially the same lattice  
4 constant as GaN layer that is a base layer of said quantum well  
5 structure.

1 7. The III group nitride system compound semiconductor  
2 light emitting element according to claim 3, wherein:

3 said well layer has substantially the same lattice  
4 constant as GaN layer that is a base layer of said quantum well  
5 structure.

1 8. A III group nitride system compound semiconductor  
2 light emitting element, comprising:

3 a quantum well structure that includes a well layer of  
4  $\text{Al}_{x_1}\text{Ga}_{y_1}\text{In}_{1-x_1-y_1}\text{N}$ , where  $0 < x_1$ ,  $0 \leq y_1$  and  $x_1 + y_1 < 1$  and a barrier  
5 layer of  $\text{Al}_{x_2}\text{Ga}_{y_2}\text{In}_{1-x_2-y_2}\text{N}$ , where  $0 < x_2$ ,  $0 \leq y_2$  and  $x_2 + y_2 < 1$ ,

6 wherein the Al composition ( $x_2$ ) of said barrier layer is  
7 equal to or smaller than that ( $x_1$ ) of said well layer, and the  
8 In composition of said well layer is greater than that of said  
9 barrier layer.